



**EXHAUST SYSTEM # HD00408
SHARP CURVE RADICAL RADIUS (2-2)
WITH CROSSOVER CHAMBER**

Feel the Power of Freedom

Congratulations, you have acquired the finest aftermarket performance exhaust system available for your motorcycle. Your **FREEDOM PERFORMANCE** exhaust system was designed to perform fit and give the optimum sound and style at a very affordable price.

WARNING: DUE TO THIS DESIGN SOME ACCESSORIES MAY INTERFERE WITH THIS EXHAUST SYSTEM SUCH AS SADDLE BAGS OR PASSENGER FOOT PEGS IN ORDER TO FIT PROPERLY IN SOME MODELS THEY HAVE TO BE RELOCATED.

Please follow the installation instructions and please do not hesitate to call us for any technical questions at (310) 324-0415

PACKAGING AND HARDWARE-HD00408-HW

PART NUMBER	DESCRIPTION	QTY	PART NUMBER	DESCRIPTION	QTY
FL275-F1	FRONT HEAD PIPE	1	A115-O2-F14	M18 X 1.50 BUNG PLUG ZINC PLATED	1
FL275-F2	FRONT HEAT SHIELD	1	A110-O2-F14	M12 X 1.25 BUNG PLUG ZINC PLATED	2
FL276-F1	REAR HEAD PIPE	1	A125-O2-F14	M18 TO M12 OXYGEN SENSOR ADAPTER ZINC	1
FL276-F2	REAR HEAT SHIELD	1	A225ECA-F9	SYSTEM END CAPS	2
MGS165-F5	TWIN STANDARD RADIUS MUFFLER	1	HWB0007	5/16"-18 X 5/8" SERRTAED FLANGE BOLT ZINC	4
HWC0011	BARREL CLAMP # 60	2	HWB0001	1/4"-20 X 3/8" BUTTON HEAD SCREW ZINC	2
HWC0003	HOSE CLAMP # 28 STAINLESS STEEL	3	HWB0035	3/8"-16 X 1-1/4" SOCKET HEAD CAP SCREW	1
HWC0002	HOSE CLAMP # 24 STAINLESS STEEL	4	HWW0003	1/4" SPLIT WASHER THIN ZINC PLATED	2
A100-RPR-F4	RELOCATOR BRACKET	1	HWM0002	PLASTIC TIE 7" LONG	1
MBK-FL140-F4	MOUNTING BRACKET	1	HD00408-HW	HARDWARE BOX	1
MBK-M115-F7	BACK PLATE BRACKET	2	HD00408-INS	INSTRUCTIONS MANUAL	1

REMOVING STOCK EXHAUST SYSTEM

- 1) Place motorcycle on side stand or motorcycle ramp to prevent from falling when performing any work.
- 2) Remove both left and right saddlebags; refer to owner manual for proper procedures.
- 3) Loosen pinch clamp bolts located in front end of each muffler. It may necessary to stretch clamps just sufficient to remove them. In most cases a 9/16" socket or wrench is needed to loosen clamp nuts.
- 4) Remove two 5/16" bolts holding both left and right mufflers to the saddlebag supports bracket using a 1/2" socket or wrench. Note: Models equipped with a (2-1) system have only one muffler on the right side FLTR & FLHX
- 5) Remove stock mufflers. Note: It may be necessary to use a penetrating lubricant on slip joints between mufflers and head pipe to help the removal,
- 6) Models (09-up) loosen pinch clamp behind oil pan using a 5/8" socket or wrench. This clamp holds the crossover pipe section skip this step for models (2009) equipped with (2-1) system and (95-08).
- 7) Remove crossover support clamp and mounting clamp bracket use a 3/16" hex key wrench for the screws and a 1/2" for the clamp. Now remove crossover pipe and reinstall screws back in place. Skip this step for models (2009) equipped with (2-1) system and (95-08).
- 8) Remove right side passenger peg, use a 5/16" hex key wrench.
- 9) Remove right side floorboard, Models (95-08) use a 3/8" hex key wrench, from the inside of the frame remove two screws holding floorboard assembly and save for re-use. Models (09-up) use a 5/16" hex key wrench and remove two screws holding assembly and save for re-use.
- 10) Models (95-08) remove clamp holding system to transmission bracket using a 7/16" socket or wrench, now open clamp to remove it.
- 11) Models (09-up) loosen nut from carriage bolt holding system to transmission bracket using a 9/16 deep socket.
- 12) Models (10-up) remove right side plastic cover, locate and unplug sensor cables from harness follow cable route and cut plastic ties re remove sensors. Pay special attention to the route of the cables for re-installation. Models (07-09) follow sensor cables route and disconnect from harness.
- 13) Loosen all hose clamps holding heat shields in place using a 5/16" nut driver or flat screw driver models (95-08) remove left side heat shield completely.
- 14) Models (95-08) remove left side pipe by loosening clamp holding it with a 9/16" open wrench or socket.
- 15) Remove flange nuts that secure each head pipe to cylinder head, now remove entire exhaust system some assistance may be required.
- 16) Remove flanges and retaining rings from the stock exhaust system using snap ring pliers. If retaining rings are bent or damaged, replace them.
- 17) Remove Oxygen sensors from stock headers (07-09) use a 7/8" or 22mm wrench (10-up) use a 14mm wrench.
- 18) Models (95-08) remove stock exhaust mounting bracket refer to owner's manual for proper removal, this is important as the clutch cable in on the way of one screw and forcing to remove it without removing the clutch cable cover will result in damages to the cable. Bracket must be removed to give way to new mounting bracket. To access standard transmission bracket, first remove oil dip stick cover and clutch release cover. **Note:** If motorcycle is resting in a vertical position, engine/transmission oil must be drained completely before removing covers. Refill after installing new bracket.
- 19) Models (95-UP) remove transmission bracket using a 1/4" inch hex key wrench.
- 20) Remove right side passenger peg, use a 5/16" hex key wrench and save it for re-use.



Note: use good and safe practices when removing and installing your new exhaust system to prevent injuries that includes but is not limited to such safety glasses and gloves. When installing make sure gloves are not abrasive or damage may occur like scratching parts. Always secure motorcycle before any work is done.

INSTALLATION GUIDELINES

1. Remove exhaust system from protective packaging it has been pre-assembled for easy installation. Place them in a non-abrasive surface such as a blanket or carpet. By doing this you can avoid scratching parts during the installation process. We recommend using painters tape to cover parts and accessories on areas where damage can occur during installation. Open hardware box and review its contents. *(See figure 2.1)*
2. Install passenger peg relocation bracket **A100PR-F4**, this bracket will raise passenger peg just enough to allow proper fitment with your new exhaust system. This bracket will be installed in the highest position possible on the frame using a provided 3/8"-16 x 1-1/4" low profile head cap screw, use a 5/16" hex key wrench and some type of locking glue to secure it. *(See figure 2.2)*
3. Install mounting bracket. Using two head cap screws previously removed from stock and the provided **MBK-FL140-F4** mounting bracket; use some type of locking glue, install as shown using a 1/4" hex key wrench. *(See figure 2.3)*
4. Install exhaust port flanges and retaining rings (from stock system) onto head pipes. (FREEDOM PERFORMANCE recommends replacement of exhaust port gaskets and retaining clips if damaged or worn out. *(See figure 2.4)*)
5. Install O2 sensors (from stock) **(95-06)** Models do not have Oxygen sensor and therefore plugs must be used, install a sensor bung plug 18mm as shown on **FL276-F1** rear head pipe, using a 7/8" or 22mm wrench. Install a sensor adapter on front header **FL275-F1** using 3/4" or 19mm wrench and a 12mm sensor bung plug, using a 9/16" wrench, now install a 12mm bung plug on the muffler section with the same 9/16" wrench *(See figure 2.5)* Models (07-09) install 18mm Oxygen sensors from stock using a 7/8" or 22 mm wrench and a 12mm sensor bung plug on the muffler using a 9/16" wrench. *(See figure 2.6)* Models (10-UP) install a sensor bung plug on the front pipe **FL275-F1** using a 7/8" or 22mm wrench, now, install a sensor adapter on rear pipe **FL276-F1** and both 12mm sensors one for the rear pipe and one for the muffler. Make sure you have the correct sensor (front & rear) *(See figure 2.7)* Use anti-seize compound apply it to the thread only. Be careful not to use too much or to make contact with the tip as it may affect its functionality. Make sure they are installed properly, as they are marked front and rear make sure they match their pipes respectively.
6. Install front head pipe section first marked as **FL275-F1** into exhaust port by first and carefully aligning the flange holes with the studs on the engine port, secure it with stock flange nuts using a 1/2" socket and bring nuts all the way but **DO NOT TIGHTEN AT THIS TIME YET.** *(See figure 2.8)*
7. Repeat step with rear header marked as **FL276-F1** and align with front pipe. *(See figure 2.9)*
8. Install two barrel band clamps over each inlet on the muffler. Make sure you have the screws oriented in the right direction for easy tightening access. *(See figure 2.10)*
9. Install muffler, insert muffler onto both headers at the same time *(NOTE: pipes will go inside muffler about 1-3/8" deep)* now, secure muffler to mounting bracket using two provided back plate brackets and four 5/16-18" x 5/8" serrated flange screws, brackets welded on muffler must be flush with mounting bracket. You will need a 1/2" wrench bring screws all the way but do not tighten yet. *(See figure 2.11 and 2.12)* Note how back plate brackets face muffler when inserted into slotted welded brackets.
10. Align headers with mufflers, once muffler is aligned with mounting bracket proceed to tighten muffler using a 1/2" wrench, now tighten headers to engine port using a 1/2" socket. *(See figure 2.13)*
11. Mark heat shields. Using painter tape cut a piece and stick it over the both shields in the same direction where the shield clip is welded inside. This is so when the shield is installed over the pipe you will know where to insert hose clamps and the direction of insertion for an easier installation, now mark the center of the clip with a marker and the arrow as shown in the picture. *(See figure 2.14)*
12. Install heat shields. Start with front shield first **FL275-F2**, engage front shield with front muffler by sliding it from the back so that the muffler is inserted inside the shield and place it over the front pipe, now, insert hose clamps by carefully looping the tail of clamp and engaging the welded clip inside shield. **Clamp # 24 is for the header section and # 28 for the muffler section.** Use a 5/16" nut driver but do not tighten at this time yet. *(Note: arrow indicates the direction of insertion of clamp)* *(See figure 2.15 and 2.16)*
13. Repeat step with rear shield **FL276-F2** align both shield and tighten using a 5/16" nut driver. *(See figure 2.17)*
14. Using a 5mm hex key wrench tighten barrel band clamps make sure clamps edge is flush with inlet, if it is too far back, clamp will not tighten properly and there will be an exhaust leaks. *(See figure 2.18)*
15. Install right side passenger peg over the relocation riser bracket, use 5/16" hex key wrench. *(See figure 2.19)*
16. Re-install right side floorboard, leave it as it was prior to installation. Models (95-08) use a 3/8" hex key wrench and a 5/16" for models (09-UP)
17. Install end caps. Use a 1/4"-20 x 3/8" bottom head screw and a 5/32" hex key wrench. End caps have multiple threaded holes for you to choose the desired rotation of the end caps. It is recommended to use some type of locking glue over the screw threads. *(See figure 2.20)*
18. **Double check all hardware and make sure is all tightened.**
19. Check for adequate clearance between all exhaust system components and motorcycle accessories prone to heat damage.
20. Clean exhaust system with some chrome cleaner and remove painters tape (if used during installation) before turning on engine. Failure to follow this procedure may result in damages to the chrome finish as oils burn out leaving permanent marks.

Note: Be sure to tighten all hardware before starting your engine. Retighten after the first 100 miles.

Re-mapping is strongly recommended by FREEDOM PERFORMANCE

Every attempt has been made to provide improved cornering Clearance. However, due to design and space boundaries on some motorcycle models, ground and cornering clearance may not be improved and in some cases may even be reduced.

WARNING!
FREEDOM PERFORMANCE DOES NOT WARRANTY ANY CHROME OR BLACK FINISH PRODUCTS AGAINST DISCOLORATION.

Note: use good and safe practices when removing and installing your new exhaust system to prevent injuries that includes but is not limited to such safety glasses and gloves. When installing make sure gloves are not abrasive or damage may occur like scratching parts. Always secure motorcycle before any work is done.



Figure 2.1 Hardware and brackets.



Figure 2.2 Install peg raiser as shown.



Figure 2.3 Install mounting bracket as shown.



Figure 2.5 (95-06) plug all sensor bungs.



Figure 2.6 (07-09) Install 18mm sensors and plug muffler.



Figure 2.7 (10-up) Install 12mm sensors and plug front head pipe.

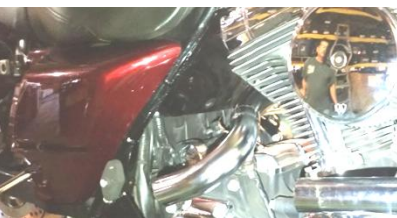


Figure 2.8 Install front header using stock flange nuts.



Figure 2.9 Install rear header and align it with front header.



Figure 2.10 Install barrel band clamps as shown.



Figure 2.11 Insert back plate brackets as shown.



Figure 2.12 Front of brackets welded on muffler are flush with mounting bracket.



Figure 2.13 Align headers with muffler as shown.



Figure 2.14 Mark arrows and center of welded clips as shown.

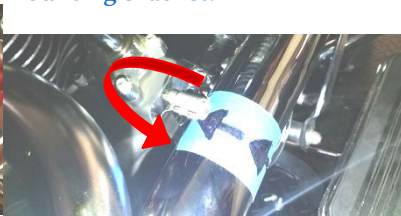


Figure 2.15 Install front shield use a 5/16" nut driver.



Figure 2.16 Arrow indicates the direction of clamp insertion.



Figure 2.17 install rear heat shield.



Figure 2.18 make sure barrel clamps are flush with the front of slotted inlets for a tight seal.

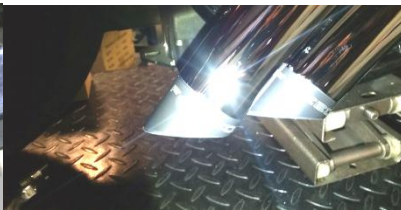


Figure 2.19 Install back passengers

Figure 2.20 Install end caps use some type of locking glue.